



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

February 16, 1984

LS05-84-02-032

MEMORANDUM FOR: John A. Olshinski, Director  
Division of Engineering and  
Operational Programs, Region II

FROM: Darrell G. Eisenhut, Director  
Division of Licensing  
Office of Nuclear Reactor Regulation

SUBJECT: OIL COLLECTION SYSTEM REACTOR COOLANT PUMPS, FLORIDA POWER  
AND LIGHT COMPANY, ST. LUCIE UNIT 2, DOCKET NO. 50-389

Reference: Memorandum to D. Eisenhut from J. Olshinski dated  
March 15, 1983

This memorandum is in response to the reference memorandum that requested the NRC position on the capacity of the container required by Section III.O of Appendix R to "hold the entire lube oil system inventory."

Section III.O Oil Collection Systems for Reactor Coolant Pump is written for a single pump. Therefore, the container is required to hold the entire inventory of the oil system of the pump. Since additional pumps are present they would each be provided with a full collection capacity. There are usually from 2 to 4 reactor coolant pumps in a plant. Because the oil inventory of one large pump is approximately 275 gallons; some licensees have provided several containers connected in parallel for each pump.

The NRC staff position on the capacity of a reactor coolant pump oil collection system which meets Section III.O of Appendix R to 10 CFR 50 is as follows:

One or more tanks need to be provided with sufficient capacity to collect the total lube oil inventory from all reactor coolant pumps drained in the container.

Alternatives which have been found acceptable for exemption are:

1. One or more tanks need to be provided with sufficient capacity to hold the total lube oil inventory of one reactor coolant pump with margin if the tank(s) are located such that any overflow from the tank(s) will be drained to a safe location where the lube oil will not present an exposure fire hazard to or otherwise endanger safety related equipment; or

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2. Where the RCP lube oil system is shown, by analysis, to be capable of withstanding the safe shutdown earthquake (SSE), eliminating the consideration of simultaneous lube oil system ruptures from a seismic event, protection is required for random leaks at mechanical joints in the lube oil system e.g., flanges, RTD connections, sight glasses. Alternative methods of protection may be deemed acceptable for such designs. For RCP lube oil collection systems for such designs, one or more tanks need to be provided with sufficient capacity to hold the total lube oil inventory of one reactor coolant pump with margin. Because protection is required only against possible leakage due to random leaks from one pump at a time, any overflow from the tank(s) need not be considered; or
3. For those pumps where the lube oil is contained entirely within the pump casing, an oil collection system may not be required, provided it can be shown that there are no potential significant leakage points.

Original signed by  
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